SANTA CRUZ BIOTECHNOLOGY, INC.

p-caveolin-2 (Tyr 19)-R: sc-27998-R

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Two major coat proteins, caveolin-1 and 2, interact near focal adhesions in the plasma membrane, where they function in the formation of caveolae and negative regulation of signal molecules localizing therein. The phosphorylation of caveolin-2 regulates this activity via three important sites: Serine residues 23 and 36, and tyrosine residue 19. Mutation of the Serine residues reduces the number of plasmalemma-attached caveolae and increases the accumulation of noncoated vesicles, but does not effect the interaction with caveolin-1. In contrast, phosphorylation of Tyrosine 19 leads to dissociation of caveolin-2 from caveolin-1, though it still does not effect caveolin-2 localization. Rather caveolin-2 (Tyr(P)19) remains near focal adhesions, where it may function as a docking site for SH2 domain containing proteins to regulate signal transduction.

REFERENCES

1. Yamamoto, M., Toya, Y., Schwencke, C., Lisanti, M.P., Myers, M.G., Jr, Ishikawa Y. 1998. Caveolin is an activator of insulin receptor signaling. J. Biol. Chem. 273: 26962-26968.
2. Nomura, R, Fujimoto, T. 1999 Tyrosine-phosphorylated caveolin-1: immunolocalization and molecular characterization. Mol Biol Cell. 10(4):975-86. PMID: 10198051
3. Lee, H., Park, D.S., Wang, X.B., Scherer, P.E., Schwartz, P.E., Lisanti, M.P. 2002. Src-induced phosphorylation of caveolin-2 on tyrosine 19. Phospho-caveolin-2 (Tyr(P)19) is localized near focal adhesions, remains associated with lipid rafts/caveolae, but no longer forms a high molecular mass hetero-oligomer with caveolin-1. J. Biol. Chem. 277: 34556-34567.
4. Sowa, G., Pypaert, M., Fulton, D., Sessa, W.C. 2003. The phosphorylation of caveolin-2 on serines 23 and 36 modulates caveolin-1-dependent caveolae formation. Proc. Natl. Acad. Sci. USA. 100: 6511-6516.

CHROMOSOMAL LOCATION

Genetic locus: CAV2 (human) mapping to 7q31.1; Cav2 (mouse) mapping to 6 A2.

SOURCE

p-caveolin-2 (Tyr 19)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Tyr 19 of caveolin-2 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-27998 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

p-caveolin-2 (Tyr 19)-R is recommended for detection of Tyr 19 phosphorylated caveolin-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for caveolin-2 siRNA (h): sc-40388 and caveolin-2 siRNA (m): sc-40389.

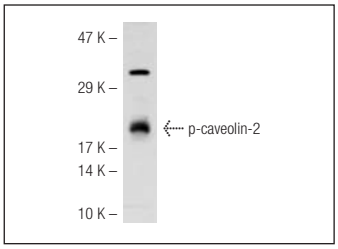
Molecular Weight of p-caveolin-2: 25 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HeLa + PMA/PE whole cell lysate: sc-24808 or HeLa-PMA cell lysate: sc-2258.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



p-caveolin-2 (Tyr 19)-R: sc-27998-R. Western blot analysis of caveolin-2 phosphorylation in rat skeletal muscle tissue extract.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

RESEARCH USE

For research use only, not for use in diagnostic procedures.